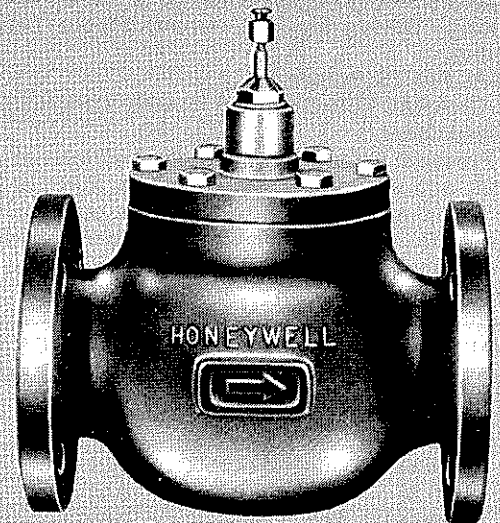


# Honeywell

## SINGLE-SEATED VALVE

THE V5051A IS A CAGE TYPE, SINGLE-SEATED VALVE FOR CONTROL OF STEAM, AIR OR OTHER NONCOMBUSTIBLE GASES IN HEATING, AIR CONDITIONING AND OTHER SYSTEMS REQUIRING TIGHT SHUTOFF. IT IS USED IN 2-POSITION, PROPORTIONAL OR FLOATING CONTROL SYSTEMS. A Q601K LINKAGE AND A MODUTROL MOTOR ARE REQUIRED FOR OPERATION.

- Provides tight shutoff with extremely low leakage.
- Pressure balanced cage type construction.
- Sizes range from 2-1/2 to 6 in. [63.5 to 152.4 mm].
- Spring-loaded Teflon V-ring packing.



## V5051A

# SPECIFICATIONS

**MODEL:** V5051A Single-seated Valve for control of steam, liquids, air or other noncombustible gases. *(Not suitable for combustible gas service.)*

**BODY:** Cast iron, straight-through, nonreversible, 125 lb. [862 kPa] ANSI flanged. Maximum temperature 300 F. [149 C].

**Pressure ratings—**

Steam service 55 psig [379 kPa] maximum.

Liquids at 300 F [149 C], 140 psig [960 kPa] maximum.

Liquids at 100 F [38 C], 150 psig [1034 kPa] maximum.

**SIZES:** 2-1/2, 3, 4, 5, or 6 in. [63.5, 76.2, 101.6, 127.0, or 152.4 mm].

**MOUNTING LOCATION:** Mounts in a horizontal pipe. Recommended position is with the actuator above the horizontal.

**CONNECTIONS:** Flanged (Fig. 2).

**BONNET:** Bolted to body; bonnet holds cage in position.

Temperature range— 32 to 300 F [0 to 149 C].

**Packing—**Spring-loaded, nonadjustable Teflon V-ring.

**INTERNAL PARTS:** Bronze.

**FLOW CHARACTERISTIC OF CAGE OPENINGS:** Modified linear.

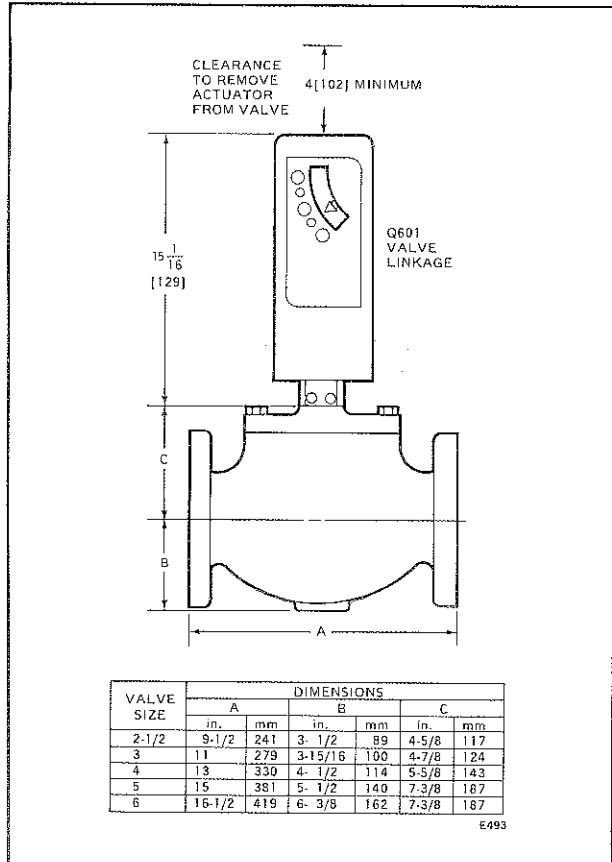
**PLUG:** Pressure balanced with seating surface at the bottom, and ethylene propylene rubber (EPR) at the top. The plug slides inside the cage opening the ports. Note: If used on hydrocarbon service, viton O-ring should be specified.

**FLOW COEFFICIENTS:**

| VALVE SIZE |       | CAPACITY INDEX (Cv) | VALVE LEAKAGE WITH Q601K LINKAGE (% OF Cv) |
|------------|-------|---------------------|--|
| in.        | mm    |                     |  |
| 2-1/2      | 63.5  | 75                  | 0.01                                       |
| 3          | 76.2  | 116                 | 0.01                                       |
| 4          | 101.6 | 178                 | 0.01                                       |
| 5          | 127.0 | 318                 | 0.03                                       |
| 6          | 152.4 | 390                 | 0.03                                       |

**VALVE TRAVEL:** 1-1/2 in. [38.1 mm].

**MAXIMUM DIFFERENTIAL PRESSURE WITH LINKAGE IN CLOSED POSITION (closeoff rating):** 50 psig [345 kPa].



**FIG. 1—VALVE MOUNTING DIMENSIONS (in in.). SEE DIMENSIONS TABLE FOR LETTERED DIMENSIONS.**

*(continued on page 3)*

# ORDERING INFORMATION

**WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALE OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER, OR SPECIFY—**

1. Order number.
2. Valve size.
3. Linkage and motor, if desired.

**IF YOU HAVE ADDITIONAL QUESTIONS, NEED FURTHER INFORMATION, OR WOULD LIKE TO COMMENT ON OUR PRODUCTS OR SERVICES, PLEASE WRITE OR PHONE:**

1. YOUR LOCAL HONEYWELL RESIDENTIAL DIVISION SALES OFFICE (CHECK WHITE PAGES OF PHONE DIRECTORY).
2. RESIDENTIAL DIVISION CUSTOMER SERVICE  
HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH  
MINNEAPOLIS, MINNESOTA 55422-4386 (612)542-7500

**(IN CANADA—HONEYWELL CONTROLS LIMITED, 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO M1P 2V9)  
INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.**

LINKAGE AND MOTOR SELECTION. Use the V5051A Valve with the Q601K Linkage and the M644C Modutrol Motor (2-position or floating, nonspring-return) or M944C Modutrol Motor (proportional, nonspring-return) with the 7640PN Internal Transformer. For additional information on motors and

linkages, refer to the appropriate Honeywell specification sheets.

DIMENSIONS: See Fig. 1 and Dimensions Table.

## INSTALLATION

### WHEN INSTALLING THIS PRODUCT. . .

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

### LOCATION

Select a location where the valve, linkage, and motor will be within their ambient ratings. The valve must be located in an ambient within 32 to 130 F [0 to 54 C] (motor limitation).

Leave approximately 20 in. [508 mm] clearance above the valve for installation of the linkage and motor and to provide room for servicing the valve body. If possible, locate valve with stem at or above the horizontal. If the valve is mounted with the stem below the horizontal, scale and foreign material might collect and tend to score the stem and cause packing leakage. Protect the stem from damage due to bending or scratching.

### MOUNTING

INSTALL THE VALVE WITH THE FLUID FLOW IN THE DIRECTION OF THE ARROW CAST ON THE VALVE BODY.

The valve body should be completely installed in the pipe line before the linkage and motor are installed.

Flanged valve bodies conform to the American Standard Association requirements for cast-iron pipe flanges and flanged fittings. The valve flanges are flat faced with a smooth finish. Companion flanges must be of the same specifications.

Mounting bolts must be of sufficient length to allow nuts to utilize full length of the nut threads. The bolts should be 1/8 in. [3.2 mm] smaller than the diameter of the bolt hole to allow clearance for installing.

To prevent leakage, use a gasket material recommended for the medium to be handled (Fig. 3).

Refer to installation information furnished with the linkage and motor when installing those controls.

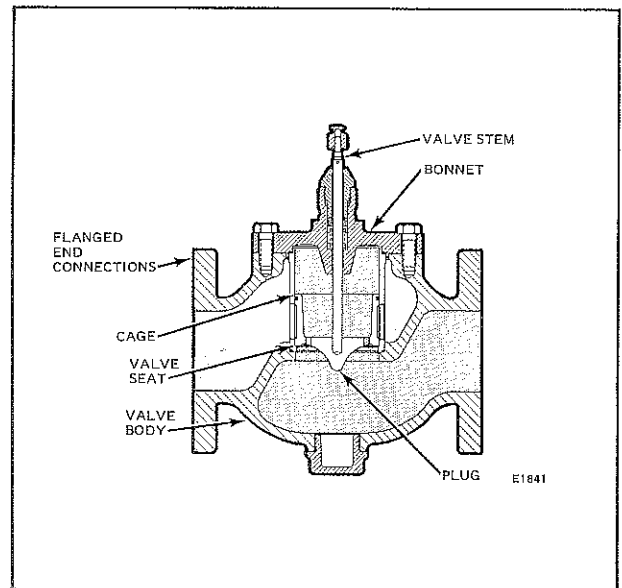


FIG. 2—CUTAWAY VIEW OF V5051A.

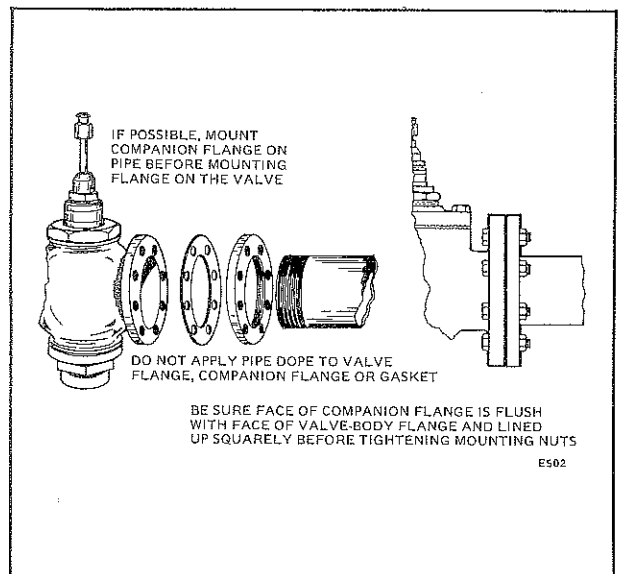


FIG. 3—PROPER FLANGE MOUNTING.

# CHECKOUT

Before installing linkage and motor, make sure that valve stem operates freely. Impaired stem operation may indicate that the body was twisted by faulty piping or that the stem was bent by rough handling. Either of these conditions may require replacement of the valve.

Check the valve body and connections for leaks.

After installing the linkage and motor, check their operation according to information furnished with these controls. Run the system through one complete cycle to make certain that valve controls properly.